

**AMENDMENTS TO THE CLAIMS**

With this Amendment, claims 13, 17-18, 21-22, 24-25, 27-30, 43, and 45 are amended; claim 38 is canceled; and new claims 50-51 are added. As of this Amendment, the status of the claims (claims 13-30 and 39-51) is as follows:

1.-12. (Canceled)

13. (Currently Amended) An isolated single or double-stranded DNA molecule which encodes a bovine ~~adipocyte~~ polypeptide leptin polypeptide that hybridizes to [[a]] the nucleotide sequence of SEQ ID NO: 3 under stringent hybridization conditions.

14. (Previously Presented) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule hybridizes to at least about 20 bases of the nucleotide sequence of SEQ ID NO: 3 under stringent hybridization conditions.

15. (Previously Presented) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule hybridizes to at least about 50 bases of the nucleotide sequence of SEQ ID NO: 3 under stringent hybridization conditions.

16. (Previously Presented) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule hybridizes to substantially all of the bases of the nucleotide sequence of SEQ ID NO: 3 under stringent hybridization conditions.

17. (Currently Amended) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule is at least about 20 bases and encodes at least a fragment of the bovine leptin polypeptide that hybridizes to the nucleotide sequence of SEQ ID NO: 3 under stringent hybridization conditions.

18. (Currently Amended) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule is at least about 50 bases and encodes at least a fragment of

the bovine leptin polypeptide that hybridizes to the nucleotide sequence of SEQ ID NO: 3 under stringent hybridization conditions.

19. (Previously Presented) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule is capable of hybridizing to at least about 20 bases of the nucleotide sequence of SEQ ID NO:3 under stringent hybridization conditions.

20. (Previously Presented) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule is capable of hybridizing to at least about 50 bases of the nucleotide sequence of SEQ ID NO:3 under stringent hybridization conditions.

21. (Currently Amended) An isolated single or double-stranded DNA molecule which encodes a bovine ~~adipocyte polypeptide~~ leptin polypeptide, the molecule consisting of the nucleotide sequence of SEQ ID NO:3 or a functional variant thereof, wherein the functional variant is capable of hybridizing to substantially all of the nucleotide sequence of SEQ ID NO:3 under stringent hybridization conditions.

22. (Currently Amended) An isolated single or double-stranded DNA molecule which encodes a bovine ~~adipocyte polypeptide~~ leptin polypeptide, the DNA molecule consisting of the nucleotide sequence of SEQ ID NO:3 or a functional derivative thereof, wherein the DNA molecule or the functional derivative thereof hybridizes to the nucleotide sequence of SEQ ID NO:3 when placed in contact with the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

23. (Previously Presented) The isolated DNA molecule of claim 22 wherein the isolated DNA molecule or the functional derivative thereof hybridizes to substantially all of the nucleotide sequence of SEQ ID NO:3 when placed in contact with the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

24. (Currently Amended) An isolated single or double-stranded DNA molecule which encodes a bovine ~~adipocyte polypeptide~~ leptin polypeptide, the DNA molecule consisting of ~~the~~ the

nucleotide sequence of SEQ ID NO:3 or a variant thereof, wherein the DNA molecule or the variant thereof hybridizes to substantially all of the nucleotide sequence of SEQ ID NO:3 when placed in contact with the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

25. (Currently Amended) An isolated mRNA molecule which encodes a bovine ~~adipocyte polypeptide~~ leptin polypeptide, the mRNA molecule encoded by ~~[[a]]~~ the nucleotide sequence of SEQ ID NO:3 or a variant of the mRNA molecule, wherein the mRNA molecule or the variant of the mRNA molecule hybridizes to the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 when placed in contact with the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

26. (Previously Presented) The isolated mRNA molecule of claim 25 wherein the mRNA molecule or the variant of the mRNA molecule hybridizes to substantially all of the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 under stringent hybridization conditions.

27. (Currently Amended) An isolated mRNA molecule which encodes a bovine ~~adipocyte polypeptide~~ leptin polypeptide, the mRNA molecule encoded by ~~[[a]]~~ the nucleotide sequence SEQ ID NO:3 or a functional derivative thereof, wherein the functional derivative of the isolated mRNA molecule hybridizes to substantially all of the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 when placed in contact with the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

28. (Currently Amended) An isolated mRNA molecule which encodes a bovine ~~adipocyte polypeptide~~ leptin polypeptide, the mRNA molecule encoded by ~~[[a]]~~ the nucleotide sequence SEQ ID NO:3 or a functional variant thereof, wherein the functional variant hybridizes to substantially all of the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 when placed in contact with the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

29. (Currently Amended) An isolated mRNA molecule which encodes a bovine ~~adipocyte~~ ~~polypeptide~~ leptin polypeptide, wherein the isolated mRNA molecule hybridizes to substantially all of an mRNA molecule encoded by ~~[[a]]~~ the nucleotide sequence of SEQ ID NO:3 when placed in contact with the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

30. (Currently Amended) An isolated mRNA molecule which encodes a bovine ~~adipocyte~~ ~~polypeptide~~ leptin polypeptide, wherein the isolated mRNA molecule hybridizes to an mRNA molecule encoded by ~~[[a]]~~ the nucleotide sequence of SEQ ID NO:3 when placed in contact with the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

31. - 38. (Canceled)

39. (Previously Presented) The isolated DNA molecule of claim 22 wherein the functional derivative encodes for bovine leptin polypeptide.

40. (Previously Presented) The isolated DNA molecule of claim 24 wherein the variant encodes for bovine leptin polypeptide.

41. (Previously Presented) The isolated mRNA molecule of claim 25 wherein the variant encodes for bovine leptin polypeptide.

42. (Previously Presented) The isolated mRNA molecule of claim 27 wherein the functional derivative encodes for bovine leptin polypeptide.

43. (Currently Amended) An isolated single or double-stranded DNA molecule which encodes a bovine ~~adipocyte~~ ~~polypeptide~~ leptin polypeptide, the molecule consisting of ~~[[a]]~~ the nucleotide sequence of SEQ ID NO:3 or a functional variant thereof, wherein the variant is capable of hybridizing to the nucleotide sequence of SEQ ID NO:3 under stringent hybridization conditions.

44. (Previously Presented) The isolated DNA molecule of claim 43 wherein the variant encodes for bovine leptin polypeptide.

45. (Currently Amended) An isolated mRNA molecule which encodes a bovine leptin polypeptide, the mRNA molecule encoded by [[a]] the nucleotide sequence of SEQ ID NO:3 or a variant thereof, wherein the mRNA molecule or the variant of the mRNA molecule is capable of hybridizing to the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

46. (Previously Presented) The isolated mRNA molecule of claim 45 wherein the variant of the mRNA molecule encodes for bovine leptin polypeptide.

47. (Previously Presented) An isolated mRNA molecule which encodes a bovine leptin polypeptide, the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 or a functional variant of the mRNA molecule, wherein the mRNA molecule or the functional variant of the mRNA molecule is capable of hybridizing to the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

48. (Previously Presented) An isolated mRNA molecule which encodes a bovine leptin polypeptide leptin, the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 or a functional derivative of the mRNA molecule, wherein the mRNA molecule or the functional derivative of the mRNA molecule is capable of hybridizing to the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

49. (Previously Presented) An isolated mRNA molecule which encodes a bovine leptin polypeptide, wherein the isolated mRNA molecule is capable of hybridizing to a nucleotide sequence of SEQ ID NO:3 under stringent hybridizing conditions.

50. (New) An isolated single or double-stranded DNA molecule which is capable of encoding a bovine leptin polypeptide that is capable of hybridizing to the nucleotide sequence of SEQ ID NO: 3 under stringent hybridization conditions, the stringent hybridization conditions being (1)

hybridization at 55°C, (2) hybridization for twenty hours, (3) hybridization using a hybridization solution with a low salt concentration of 0.99 M sodium ion, (4) hybridization using a hybridization solution with a salmon sperm concentration of 100 mg/ml, (5) washing with a post-hybridization washing solution containing 0.1x SSC and 0.1% SDS, (6) washing with a post-hybridization washing solution at a temperature at least as high as the hybridization temperature, (7) any of these in any combination, or (8) all of these in combination.

51. (New) An isolated single or double-stranded DNA molecule which is capable of encoding a bovine leptin polypeptide that is capable of hybridizing to the nucleotide sequence of SEQ ID NO: 3 under stringent hybridization conditions, the stringent hybridization conditions being (1) hybridization for twenty-one hours, (2) hybridization at a temperature of about 42°C using a hybridization solution containing 50% formamide, (3) hybridization using a hybridization solution with a low salt concentration of 0.82 M sodium ion, (4) hybridization using a hybridization solution with a salmon sperm concentration of 100 mg/ml, (5) washing with a post-hybridization washing solution containing 0.1x SSC and 0.1% SDS, (6) washing with a post-hybridization washing solution at a temperature of about 60°C which is at least as high as the hybridization temperature, (7) any of these in any combination, or (8) all of these in combination.